THE TEACHING OF GEOGRAPHY

LIONEL W. LYDE

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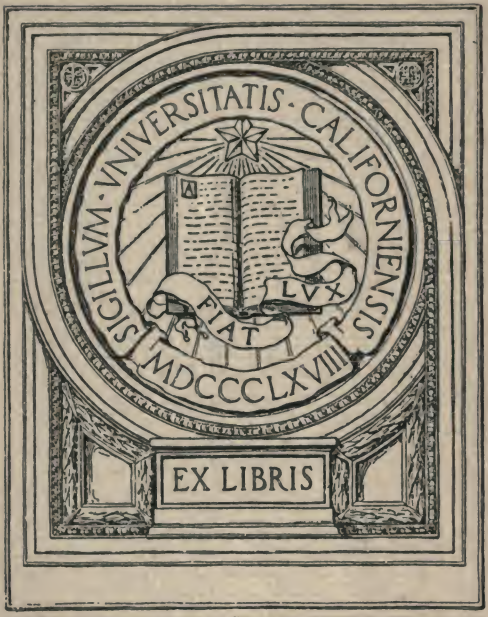
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The Teaching of Geography

BY

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Preface

This little book consists of a report—almost *verbatim* to the best of my belief—of some lectures delivered to the Summer School for Teachers in the University of St. Andrews; but it does not contain the subsequent informal discussions—from which I learnt much—on points raised by the audience (some 300 in number) or myself.

These discussions all turned more or less on the question of "Geographic Control", and I should like to add here—what apparently is not stated in so many words in the lectures themselves—that I do not believe it possible to use School Geography with the best results, in the training of the imagination, without emphasizing, above all other things, this matter of Geographic Control—Site Control and Relief Control, but especially Climatic Control.

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The Teaching of Geography

SOME PRELIMINARY CONSIDERATIONS

When I remember my own first efforts to study Geography, two or three facts stand out prominently. In the first place, I followed my own instinct and inclination absolutely, wherever they led; and, in the effort to save my own time and memory, I came to the conclusion that I must find a method of study applicable to all possible areas, and that in this method all necessary facts must be learnt as examples of some few great principles.

THE ESSENTIAL MINIMUM

My immediate object was to enable myself, at a few weeks' notice, to take up the teaching of Geography—amongst other things—to a class of about twenty-five boys; and, as far as they were concerned, my only idea in those days was that they should not come to grief in examination. Before the test came, Mr. Chisholm's *School Geography* appeared, solving many of my difficulties; but in the meantime I had decided that the best thing both for the boys and for me was to find out, stick to, and make sure of, an essential minimum.

Ultimately, under the influence of such a long-headed and deep-hearted man as Rogerson of Merchiston, one could not fail to change this point of view; and so one's object came to be, not simply that they should pass their examinations successfully, but that they

should get hold of that essential minimum (which meant passing successfully) in such a way that it would be a permanent possession. Eventually this minimum came to be interpreted as meaning such parts of geographical science as drew out mental power; and our "objects" were arranged in a formal list: (1) imagination, (2) organization, (3) reason, (4) taste. Facts had thus become simply a vague "raw material", out of which taste selected the most important (really, what the boys liked best, or disliked least); and, when these selected facts had been "organized", we tried to interpret them, *i.e.* to "picture" them and their effects on ourselves. Knowledge was valueless unless we knew how to use it.

VALUE OF TRAINING

These details of one's early efforts are obviously of no importance in them-

selves, but they perhaps account for my very strong convictions about the teaching of Geography in school. I got my own early equipment for teaching in such a casual and hand-to-mouth way that I probably under-rate the value of proper training; but nearly twenty years of constant school experience left me with certain convictions which I have never allowed my wider knowledge of the science in later years to over-ride.

PERSONALITY OF TEACHER

One of these convictions is of the entire absurdity of trying to impose any particular method on any particular teacher. Go and hear every teacher who will let you listen to a lesson; note everything that is good in his method; but select for yourself only what really suits your own tastes and ways of doing things! Your own method, though in itself inferior, will be far better than an ideal

that is borrowed. Your own personality is the best thing you can give your class; keep it your own! I may presently press on you the advantage of a particular way of introducing the science to little children; but otherwise I propose to offer only suggestions or examples of what actually did suit me in teaching under very favourable conditions in Scotland. My generalizations will be tempered by the memory of my own mistakes—so far as I came to be aware of them—from which some 5000 boys, I am afraid, suffered.

SPECIALIST TEACHING

Another conviction, which perhaps follows from the former, is on the question of specialist teachers. I do not believe for one moment that the need in schools is for Geography specialists. What the particular teacher must be a specialist in is teaching, not Geog-

raphy[1]; and this for several reasons. For one thing, there is not, and there ought not to be, enough Geography work in any ordinary school to keep a Geography specialist fully engaged. In Scotland, where we had of course subject teaching, one could cover all the Geography of the whole school (500 boys) in two days a week, dividing the other three days between History and English. But you cannot afford to give a Geography specialist a week's salary for two days' work. Even if you could, you are better without him, unless he happens to be also an expert in teaching. The one thing needful is the development of all the boys' mental powers in symmetrical harmony — the well-balanced mind; and the subject specialist is nearly always want-

[1] Ritter said that he owed his chief knowledge of Geography to Pestalozzi (whose teaching was founded on Rousseau) although "he knew less Geography than a child in an elementary school".

ing in the sense of proportion, especially if he is a mathematician.

This seems to me to be a point of great importance just now, because a good many Heads of schools are excusing themselves for making no change in time-table or syllabus (in order to give more value to Geography), on the ground that they have not got properly trained teachers. This is generally a mere subterfuge, which can easily be made plausible by overcrowding class-rooms and overworking teachers; and, even where it is a genuine conviction, it is based on a misconception—at all events, as far as the junior classes are concerned. Nearly all the improvements in the teaching of Geography from the days of Comenius, if not from those of Strabo, have been the work of teachers, not of geographers; and, with our little people especially, the important thing is that the method should

be educational, not necessarily what is called "scientific". Indeed, already there is a tendency to make this early teaching too "scientific" —*i.e.* logical instead of psychological. The vital concern is for the child, not for the subject.

TIME IN SCHOOL

A third conviction, alien to the ideas of the specialists, is that the amount of time given to the subject in schools is generally sufficient, or nearly so, if it is properly used. I used to have myself 45 minutes a week with each class in school, and about 20 minutes for home work. The matter really rests with the Heads of schools, and could be made crucial by Inspectors. The Mathematical teacher can do your "time" problems, the Art teacher can help in modelling, the Science teacher can take meteorological records, the Curator of the Museum can be respon-

sible for products, the Sergeant-major can do the pacing of areas and judging of distances, &c. The one essential, so far as the Geography itself is concerned, is that the teacher should not only be a specialist in teaching, but that he, or she, should have leisure and books for proper study and preparation, and sufficient "aids and appliances" in class. It follows, however, that, with limited time, we must select our material carefully and reject uncompromisingly. We will certainly avoid, if not actually reject, facts for which we cannot give any reasons; and, therefore, though it is easy to account for the presence of some minerals, *e.g.* salt, here is a reason for keeping the minerals of an area to the last or nearly the last. Teachers, when urged to teach "commercially", are apt, for example, to rush at the coal and iron areas, and to over-rate—grossly over-rate—the importance of precious metals.

At all events, let us avoid, or reject, facts for which we can give no reason; and, amongst those for which we can give reasons, let us select first those which have the most obvious influence in differentiating the peoples and products of the world. That is to say, we will subordinate the rigid and the constant to the mobile and the adaptable, geological features to climatic phenomena, products to people.

HUMAN NOTE

As the human personality is of supreme importance on the one side, so the human note is on the other. School Geography considers, or should consider, the Earth only in relation to Man, *i.e.* only as occupied by different peoples, in different political units, following more or less different typical occupations; and you can lay stress on the fact, or the causes, or the results, of these differ-

ences. Personally I believe that Geography can be taught most successfully from the last point of view—the economic—combining the industrial and commercial phenomena of interchange of products; but, of course, this implies, and necessitates, such a study of the site and surroundings, the size and surface, of an area, with the resultant climatic possibilities, as will bring out, and account for, the *characteristic* products and means of exchange.

Next in value to the economic aspect I put the historic,—the causes of these fundamental differences. Where the Geography and the History are taught by the same teacher—a plan which has much to recommend it—there is little danger of the element of time being under-rated (as it often is in, *e.g.*, the U.S.A. schools) in judging the character and the extent of the geographic control of human activities.

The mere fact of the differences, the political Geography pure and simple, seems to me to be the least valuable in school work. But, if your special interest happens to be in that—in the international relations of people, the position of frontiers, the sites of battle-fields, then don't be deterred from following your bent by any fear of some nonentity calling you a Jingo. Only see that you teach well. It is impossible to "picture" a people apart from some place, and the power to picture truly the conditions of foreign peoples in distant lands has a real political value, especially in modern times; and there is more than Jingoism in the power to trace, *e.g.*, the relation between nomad warfare and the percentage of percussion instruments in a Constantinople band, or that between the Moslem's love of military drill and a "desert" religion which, by forbid-

ding the representation in art of human or animal forms, gives a sacred character to geometrical evolutions.

UNITY OF THE SCIENCE

In any case, there is no essential difference whatever in the end in view, the principles involved, or the method to be used, between teaching Geography from the economic point of view and teaching it from any other point of view. The only difference is occasionally a slight difference in the choice of subject matter. And it is, therefore, a cause for much regret that the teaching of the science from this point of view ever came to be called the teaching of "commercial" Geography. I think that no other single word ever did so much harm to the teaching of any subject, for it made writers write and—still worse—teachers teach as though all the importance lay, not in

the end proposed, the underlying principles, or the practical method, but in the commercial products,—which are always incidental and often absolutely immaterial.

On the other hand, if Geography is useful in any sphere of education, no doubt it is most useful to the man whose life's work will bring him most into direct contact with the various lands and languages, peoples and products, of the big Earth. And the man who can appreciate properly other people's environment, is the most likely man to anticipate their needs, and so, in his own business, to find new customers and new markets. Geography is the only school subject which gives the necessary widening of outlook without vagueness of detail.

But in commerce a wide outlook, even when its details are not vague, must be accompanied by concentration,

by recognition of limitations, by deliberate choice of the narrow line of approach suited to the individual's own ability and opportunities. Here, again, Geography, properly taught, has its special value. Though full of human interest, it is a science, and its method is scientific; and so it exercises the necessary discipline and guidance on the outlook faculty—if it is taught as a science, *i.e.* from the Known to the Unknown, from Cause to Effect.

SCHEME OF WORK

Where a teacher has no decided leanings or opinions on the subject, or feels diffident about drawing up a scheme of work, a great deal of valuable help will be found in the Memorandum (Form 561) issued by the Board of Education for English Secondary Schools. It gives real guidance, while leaving much liberty to the teacher. Indeed, almost the only

points on which it is at all mandatory, are three which all teachers would agree to be of vital importance:—

1. *That a general scheme of work should be drawn up beforehand.*

So that (*a*) the teacher must have thought out roughly some plan in time (if conscientious) to have done some preparation work on it, and (*b*) there shall be some check on the discursiveness which in itself is so valuable because congenial to the many-sidedness of children's minds.

2. *That the method of teaching must be scientific, working by "cause and effect".*

Which means that facts shall not be disconnected, but put into proper relation to some cause *or* effect—not necessarily both. This implies, on the one hand, a properly equipped classroom, and, on the other, a selection of facts. Some writers who have done

yeomen's service to Geography in other respects, *e.g.* Dr. Mill, recommend "facts only" for children; but such advice seems to be contrary to the child's natural passion for asking "Why?" No doubt, this is the accumulating *rather* than the reasoning age, and the child must not be asked to think in terms of adult reasoning; but a fact is remembered with greater ease if it is understood, and the business of the teacher is not only to encourage the child's questions, but actually to economize all his efforts to gratify his legitimate curiosity. Besides, a wide range of geographical facts is needed before the end of the school career; and, therefore, one must connect each fact, as far as possible, back to a cause, or on to a result—so as minimize the work of memory.

At the same time, of course, we should begin with the *simplest* facts—

I mean the simplest that are significant, *i.e.* which we can connect with cause or effect. Facts have to be learnt in Geography as in every other subject, and they are more easily learnt "by heart" in childhood than at any other time of life.

3. *That, while the subject should be taught as a science, it must be learnt as an art.*

The motto must be "We two"—you and I, teacher and taught. Teachers are not to exhaust voice and energy in doing all the work, and pupils are to learn independence and to do things for themselves. Successful enquirers in all ages have *collected* the initial and fundamental facts of their success by personal observation and activity; the whole subject matter of Geography has been accumulated in this way; and, in order to appreciate the importance of observing, to have *convictions* about the results of

observation, children must observe and do things for themselves. This means practical work in class, proper home work, definite field work. It does not mean the misuse of the science on the lines advocated by the intemperate zeal of the Scotch Board. The younger children must make, by "inlook", the personal discoveries on which their world knowledge is to be based; but the fundamental aim and value of the science lie in the training of the imagination, the "outlook". Too much inlook, misdirected local observation, unnecessary practical work, mean too little outlook, insufficient world knowledge, cramped imagination. In a word, all excessive aim at concrete treatment is bad; and for the older pupils it is as criminal as to destroy the unity of the science by teaching physical Geography apart from political or economic Geography.

FUNDAMENTAL ASSUMPTION

Of course the best thing is to draw up one's own syllabus in the light of certain assumptions:

1. That Geography is intimately connected with organic activities—of man, beast, and plant; that, having common ground with so many other subjects, it makes the best correlator, and gives most facilities for comparison; and that, as it combines the training of observation, reason, and imagination, with the hand-and-eye work which is so necessary for children, it has the many-sidedness and spontaneous interests that are so childlike.

2. That it must be a study of the material base or environment, without which no subject—language, literature, art—is understood as fully as it might be; that it must make most use of the highest faculties (imagination and or-

ganization), starting in the facts of sense products (handled, measured, modelled, drawn, &c.) and ending in clear simple generalizations (arrived at by the elimination of unessentials); and that, in this process, it gives constant object lessons in the art of selection, amid a plethora of alluring details, at once saving time and training taste.

3. That there are three general stages of essential development in school children of an age suitable for Geography: (*a*) a stage of accumulating by direct observation, which can be extended by imagination with an ease unknown in later years—(*b*) a stage of experimenting with imagination, the age when every boy wants to be an engine driver, begins to collect eggs, and makes a hero of a great hunter or traveller—and (*c*) a stage of analysis, classification, unification, an age at which causal relations begin to fascinate. Simple and obvious, or "con-

vincing", causal relations may be pointed out from the very first; but all matter must be appropriate to the age and character of the particular class,—the great thing being, with junior classes, to know what to avoid, with senior classes, to know what to emphasize.

The character and value of the introductory work, and the place of world Geography in the syllabus, are subjects on which I propose to say more presently; about other essentials it is much more difficult to advise, and impossible to prescribe. Such points as the sequence of areas for study, the progressive development of the physical details, the relative amount of analysis and synthesis, &c., must be decided in each case on its own merits and to suit its own circumstances.

THE BEGINNINGS OF GEOGRAPHY

Geography proper should come into the child's work as soon as his dominant interest ceases to be directly related to the power of recognizing and naming; and, with the normal boy, this is at about the age of eight, *i.e.* an age when all subjects must be treated very broadly and with the simplest possible method. Before this age the child has had, or ought to have had, object lessons in Nature-study and story lessons in Man-study; and the stories have certainly needed, or been helped by, pictures and plans—the latter chalked on a blackboard (lying on the floor or across two desks). And to the child these chalk marks have been entirely realistic—the Cape of Storms, the route of the Armada,

Lieutenant Shackleton's winter quarters, &c. In a word, children have a much clearer and firmer grip on the idea of a map than is possessed by the old bachelors and maiden ladies who, though inexperienced in teaching, discuss at length in magazine articles "the precise school age at which children should be introduced to the idea of a map".

"IN TERMS OF THE MAP"

The great difficulty is not to induce children to "think in terms of the map", but to prevent teachers from doing it, and so teaching mere words instead of live things. For little people one's rough blackboard maps make clear the image they have conjured up; for older children the most useful map in the world does nothing more than recall real things and relations. For these little people, therefore, plans and maps are of quite minor importance. Indeed, all bigotedly "sci-

entific" method for them is as uneducational as the old "logical" method based on mathematical Geography.

The primary and essential object of all right teaching of Geography is the training of imagination in the sphere of space. That is, we have to train the outlook faculty to image forms and forces beyond the horizon,—forms of land and water, and climatic forces acting on those forms. The boy who has learnt to do this, will soon find that he can do more—that he can image other more difficult things, *e.g.* political forms and economic forces. Without question, if he can image the thing, he can draw a plan or map of it quite accurate enough for the purpose in view, however clumsy he may actually be with his pencil.

THE OUTLOOK FACULTY

Assuming, then, that the proper teaching of Geography means the training of imagination in the sphere of space, how does one set about trying to teach a boy to image forms in space?

One thing is certain. He must first learn to image forms that are within his horizon; and, when you have *proved* his power to do this, he must use the same power to image forms that are—and, for most children, will always remain—beyond his horizon. Observation of the "known" is a psychological necessity for understanding the "unknown".

The teacher's work is to save him from wasting his time, but not to save him from making his effort; the teacher must teach the subject as a science—by observation, comparison, inference, verification, from the known to the unknown, from within the horizon to

beyond it, while the pupil must practise it as an art.

THE KNOWN

What is the known? It is what is psychologically nearest, though it may be — or ought to be — logically the last step in knowledge; and that is nearest psychologically which seems nearest to the child—*i.e.* the Home-land—first, its *forms* of land and water, its space positions (as on a map) and its space reliefs (as in a model), and then the climatic *forces* acting on these forms, *i.e.* the space relations of earth and air and ocean — what Professor Gregory calls the "fundamental geographical process": how the sun lifts the water from the ocean, how the air carries it to the land, and how the land sends it back to the ocean.

By what means is it to be known? By accurate observation of the phe-

nomena, which implies that the observation must be at first hand and systematic; and there is only one way of observing geographical phenomena of this kind at first hand, and that is out-of-doors. Further, if you wish the phenomena to be very vivid in the child's consciousness, the forms so observed should be, if possible, ones that are associated in his mind with other ideas, especially "out-of-school" ideas—a pond on which he has sailed a boat, a hill down which he has tobogganed, a stream in which he has caught a trout, a plain on which he has played cricket. There is no substitute for, or alternative to, this direct personal observation of forms "in the field".

OUT-DOOR WORK

Exactly what forms should one choose? That depends partly on the geographic environment of the school. Rural schools

generally have the advantage in the matter of physical forms, while urban schools have it in the matter of the human interest; but both alike can observe levels, light, and weather. Levels can be judged just as well by, *e.g.*, the putting on of a drag on a wagon as by the flowing of a river; and I am not sure that the super-abundance of people and products, of historic and economic interests, of place-names and modes of transport, in a town does not fully compensate for the deficiency of natural features. On the other hand, I do not think that, except with a very skilful teacher[1], there is much profit in taking an urban class out into a rural district occasionally. Town-bred children have such limited range of vision that they miss half the

[1] Given a skilful teacher, with a suitable area at hand, a small class (under 25), &c., excursions can be very useful, and there is at least one really good book on the subject—Mr. Cowham's *School Journey*.

"distant" values in an occasional rural excursion, and one cannot be taking them out constantly; they "suffer" just as city waifs do on "fresh-air fortnights" —away from the narrow city streets, which are always lit, and where the ceaseless noise is company.

"DEFINITIONS"

Where, however, the necessary forms are present, the best to study first are, of course, types—"definitions" in the concrete; and, if this were done regularly, one would cease to get such a common answer as, *e.g.* Salisbury "plain" given as an instance of a *plain.* Even a hill only 50 ft. high has a summit, a slope, a foot; flat land is dry or marshy; water is running downhill or stagnant; the smallest stream has tributaries and windings; even a gutter carries silt. With these definitions should go observations of weather and of light, the vital point

with regard to the latter being to connect the shortest sun-thrown shadow with both direction (south) and time (noon).

As I have already said, it is impossible for one teacher to prescribe a course or a method for any other; and, therefore, here again I would only suggest that each teacher should, in choosing a method or arranging a course for these little people, simply bear in mind the fundamental position: All knowledge is based on sense perception; the outlook faculty can only image the unseen by reference to the seen; direct observation is not only appropriate to this stage of the child's mental development, but also is his sole source of basal geographical ideas; but the child is more interested in life and organic processes than in physical features and inorganic products, and works synthetically, not analytically.

MENTAL PICTURES

In what form is the knowledge to be held? In the form of distinct mental pictures; therefore, he must go on, and on, and on, observing until he can make these mental pictures—you cannot fix any time limit. The work is to be done for a definite purpose, not for a definite period; but the speed will ob viously depend on the character of your appeal to the boy's interest and curiosity, *i.e.* on the selection of material and the vividness of your presentation. The Homeland, therefore, must be his, not yours—forms of land and water, and climatic forces, affecting as many of the boys as possible, and affecting them every day, especially out of school; and you cannot enlarge their horizon if your own is narrow, and unless you bring them into contact at first hand with Big Mother Earth.

MODELLING

What is the test, or proof, of knowledge? The power to reproduce and represent, to model relief and draw position; and, if the modelling is done in sand, the most important of the climatic forces can be also imitated.

The "reproduction" of the climatic forces cannot, of course, approach in accuracy that of the land and water forms; it is quite easy to decide whether the child has a fairly accurate and quite clear image of what is perhaps the most useful of all geographic units—the river basin. For instance, you can tell him to pour the water on to the sand "so as to make the right slope longer than the left". As far, then, as the work done by the children is concerned, the modelling is far more important than anything else; and I would suggest that young children should use only

damp sand, and should model[1] on a slightly curved base, though I would make no allusion whatever to the curved surface of the globe, not even if asked directly why the board was curved. Further, I should put practically no limit whatever to the exaggeration of the relief—even by the teacher. Dr. Mill seems to think that an exaggeration of three times is the utmost to be allowed. I cannot say that I have known any harm done even by an exaggeration of thirty times. You are trying to give the boy a correct idea, not a scientific fact; and you must give it him in the same way as he would give you his idea, *e.g.* in drawing a horse, of the proportion which the animal's eye

[1] There need be no hesitation on the score of the difficulty of modelling—to the child. Modelling is essentially easier than drawing, for the problems which accompany the representation of a solid object on a flat surface, *e.g.* light and shade, and perspective, are not involved in the representation of one solid by another solid.

bears to his whole body. The right proportion is the one apparent to the child (or to the mass of the class) at the time.

MAPPING

"Map"-drawing should begin after the modelling has been started, and should be of the same observed forms of land and water; and I think three points are important. In the first place, all must be done to measurements; and these must be got with effort—pace a long distance, or hop a short distance, or run up hill, &c. Then reduce these "paces" to a very small scale[1] so that the children may get the one thing which they do not usually realize—a comprehension of the vast area included in a map. Lastly, never allow a single construction line of any kind, unless you do so deliberately with a very

[1] No scientific drawing to scale should be attempted until a child really understands the use of fractions in Arithmetic.

precocious child—to *blunt* his imagination. I do not think that it matters whether they draw from the real form in the field, or from the model of it already made; but, in the latter case, it is important for them to begin the map where the model leaves off, *i.e.* with the outline.

Personally I think that it is putting too much strain on these little people to make them draw from their mental picture of the observed form; but I would not stop a boy doing this if it seemed to cause him no extra effort.

ORAL WORK

As a rule, though by no means always, those who can model or draw best, are least happy in oral or written descriptions of the forms which they observe, and *vice versa*. I would, therefore, always make some oral description of the drawn or modelled area a necessary

part of the work; and, if I had a very glib person, I would make him write his description. For the better boys of the class, the description might sometimes take the form of an identification on the local sheet of the Ordnance Survey (largest scale procurable) of the particular form just modelled and drawn. The work of the teacher meantime is obviously to superintend, guide, propound problems, &c.; but there are two special points on which I would like to lay stress.

"SEASONAL" WORK

One is with regard to the "weather records"—which, by the way, should be "observed" by all the class, but "recorded" by the bottom boy, or two boys, who may as well do something. Of course, if the teacher has a special interest in Botany, "seasonal" work at once becomes natural; but in every

case I would always keep my work seasonal, as I would always keep it orientated. And, apart from the ordinary records, &c., one must not forget side issues. For instance, every boy might well know how long a shadow the sun throws (or would throw, if shining) from a full-sized cricket stump, on his own birthday. Again, compass directions may be named from the sun —sunrise, sunset, midday; winds (in England) may be called, land wind, sea wind, sun wind, snow wind; and so on. Mr. Mackinder long ago, too, explained the importance of the children *pointing* in the direction to which these winds refer. As a matter of fact, children do, in this way, *discover* for themselves gradually the form and movements of the Earth; and discovery means so much more than mere belief.

STORY TELLING

The second point is one of special importance to teachers who, like myself, have the misfortune to be atrociously bad modellers. It is the great utility of telling stories while the class is modelling—stories appropriate to the type of "form" that they have just been studying, and now are modelling. Historically, there has been an unnecessary prejudice against such stories—a prejudice based on the *misuse* of Strabo's "fables", which were used as *facts* by adults when he intended them specially for children as a "philtre of study"; and at the same time the adults who misused them, ignored or forgot his emphatic assertion of the prime importance in Geography of observation and scientific method.

These stories should generally deal with (1) the great features of the Earth,

and (2) the great phenomena and principles of the science. Materials for stories about the former can easily be got from standard books of travel, and quite enough for all ordinary purposes will be found in the Herbertsons' *Descriptive Geographies from Original Sources.* Materials for the "fictions" also abound, scattered through various "Junior School Readers"—not to mention such obvious sources as Kipling's *Jungle Books*; but much the best course is to make up the stories for oneself to fit exactly the need of the moment—*e.g.* how men invented boomerangs and blowpipes, how they came to use oil instead of butter, why they wear turbans in places where they also wear sandals, what they make their houses of, their games, &c. So far as these stories are strictly in correspondence with observed phenomena, they are, and may be called to the children, absolutely "true stories"; but, to be

educational, they must have direct bearing on what the children are studying at the time. For teachers who lean towards historical stories, Mr. Fairgrieve's *Round World* might be suggestive.

FOLLOWINGS ON

The work that I have sketched so far is not likely to need less than one full year, even if one ignores new boys coming into the class at by-terms; and, even if the class were ready for the next step before the end of the session, I should *not* go on to it. One cannot have exhausted all possible details of the essential minimum of the first year's work.

By the end of the first year, however, the class ought to have got (1) a little bit of accurate knowledge about the real things around them, the forms of land and water, and (2) such practice in reproducing their mental images of these forms as to have a definite kind of understanding of the conventional representation of the Earth's surface on

a map. Incidentally, the work—founded on direct personal observation—is a fine training of the memory; and you have supplied their memories with all sorts of stories on the picturesque materials of the science — stories of what someone has called "earth lore, life lore, sky lore", or some such words.

THE UNKNOWN

The next step is obviously to convert the definite knowledge of the Known into a sure basis for approximately definite knowledge of the Unknown,—to relate the pictures of real things and the reproductions of them with Mother Earth. At first, one merely revises, partly for the sake of the new boys in the class. In any case, the work is still oral and distinctly conversational, and continues the out-door observation and the in-door reproduction and re-presentation. But one wants to make

it more directly a preparation for the unknown. The difficulty is to decide exactly what the unknown ought to be.

Mr. Mackinder, who has done more than any other person to stimulate and vitalize the teaching of Geography in this country, considers that "the known" may be taken to include—besides the actual "home", — the home *area*, the home *country*, and the home *region*; but I feel doubtful about this, especially about the home country. If the home area is a "natural region", throughout which a particular set of physical conditions is typical, then obviously it should be included in the known. Any normal position along, *e.g.*, the öolitic limestone escarpment, is more or less typical of the whole, or of any and every other normal position; and, so far as the climate is regional, relief effects being only local, the "home" may in-

clude the home *region*. Further, this method of procedure has the advantage of being synthetic, while the children's systematic study of the "homeland" pure and simple is becoming analytic. But to introduce the political unit seems to me to vitiate the whole scheme. At a subsequent stage I think that the political unit is the right unit for teaching; but at this stage the unit must be geographical, *e.g.* a natural region or a river basin. And, of course, the advice to "move outward in ever-widening circles to the county, the country, the continent" is sheer nonsense; it only means going, after the first step, to the unknown from the *un*known.

TOPICS AND PICTURES

Whatever precise area you decide on as the homeland, the work should be rather more formal than in the previous year. For instance, I would give definite

topical lessons—appropriate to our field work at the time—on peoples, places, products, historic persons, economic problems, &c.; and I would make constant use of pictures having "comparative" value. These pictures will not only correct any wrong impressions left on the children's minds by your stories of foreign lands and peoples, but they will also give new ideas; and they may be made very vivid by a use of the stereoscope — though the great use of this is probably in enabling older children to understand maps better. It may be possible at this stage to introduce a little "collateral reading" — by the children. Of course, nothing should come between teacher and taught until the child can read with complete ease; but a little guidance now enables children to acquire easily the art of correlating what they read with what they observe—the only educational way of making

a little knowledge go a comparatively long way.

THE GLOBE

Whatever one means exactly by the known, there is no question about the unknown. It is the globe, and nothing else. The only question is exactly when should the step be taken? And it is not a very difficult question to answer. As soon as you are satisfied that the class can "read" *one another's* models and maps fairly well, you may go from the tiny, known and seen slopes of the homeland to the vastest, unknown and unseen slopes of the globe. The globe is not only a unit, but *the* unit—the simplest unit of the "geographical" imagination; and you must take only one complete step—direct from the known to the unknown. That unit includes every area that the children ever can have to study; and each pos-

sible area has thus been grasped implicitly in that one complete step from the known to the unknown.

On this matter of the globe, as in that of "the proper time for introducing the idea of a map", a good deal of amiable ignorance has been displayed. The conception of the Earth as a globe is, of course, a profoundly difficult one, but not to a child. Not one child in a thousand ever asks one—off his own bat—why New Zealanders don't tumble off the earth if their feet are pointing to our feet. The average child is no more worried by the asserted roundness of the earth than by the apparent roundness of the sun and moon. Again, the difficulty is in procedure. What is one to do with the globe? That depends largely on what you did last year in connection with the miniature world of the homeland. If your stories of phenomena, world features, &c., have aroused the

interest of the class sufficiently to elicit any expression of special likes or dislikes, you have at once a guide to the world development.

WORK ON THE GLOBE

The globe should be a large one—how large depends on the size of the class—and by preference it should be a plain slate sphere, which the class should regard as all covered with water. On this you can chalk (1) the outlines of the land area in which the class seem to be most interested, and (2) those land reliefs which you are going to bring out in your first world model. Sometimes a class seems to understand better if you chalk over the whole area inside the outline, and then emphasize the special reliefs by using a different colour. In any case, it is a great help to have arranged your stories so as to enable you to cover the whole globe

at once with those reliefs which decide the general rainfall of the world, *i.e.* the "horseshoe" of great slopes which make the great water-parting between the Atlantic and the Indo-Pacific Oceans.

On examining the globe thus chalked, the class will "guess" that the great white lines of water-parting divide it into two "equal" parts; and, when these are modelled, the class realize instantly that these equal parts are subdivided into very unequal parts — bed and feeding basin. The small Atlantic bed implies a large Atlantic feeding basin, which accounts for nearly all the great commercial rivers of the world—Mississippi, Amazon, Congo, Niger, Nile, St. Lawrence, Orinoco, Plate, &c.—draining naturally into the Atlantic; and *vice versa* with the huge bed and comparatively small feeding basin of the Indo-Pacific oceans. This becomes still clearer if, to the major or fundamental slopes which make

the great oceanic divide, you add on your model those minor or subordinate slopes which combine with the major slopes to decide the course of the great rivers.

It is a mistake, when the children are copying your model, to press for any minute accuracy; all you want them to have is a true general idea, *e.g.* that the great divide splits the surface into "equal" parts—that in the New World it runs along the side nearest to the wind that comes from the sunset—that long slopes mean long rivers, &c. I do not think that one can do much harm by showing these little people good physical maps of the areas in question, to confirm their beliefs; but one does want them to understand the model, not to look at a map—to see with the imagination, not the eye. The appeal to the eye, even if it were not so frightfully overworked as it is in

these degenerate days of inventions to save mental effort, is often misleading and always appallingly superficial.

CONTINENTS AS SECTIONS OF GLOBE

When you are satisfied, from the modelling tests, that the class has a *fair* knowledge of these reliefs and positions on the globe, you may go on to the continents, as sections of the globe; and I would always begin with South America. The procedure would be to remodel the South American bit of your world model on a much larger scale, adding to the bit of the "horse-shoe" divide all those important sub-ordinate slopes the influence of which in arranging and collecting (but not causing) the general rainfall the children can see for themselves. When the class are copying this, make them work *very fast;* in fact, *all but bustle* them. The result must be that they will give you

very few details—which is what you want. Do these include the great major and the chief minor heights, the long slopes and the short slopes? If so, the children have got the *correct idea.* If not, do the whole thing again, and again if necessary, until—when pressed for time—they save it by *omitting unessentials.* Then let them finish the model at their leisure.

As the model of each continent, or other area, is finished, it should be drawn, the drawing beginning where the model stops—at the coastline. And, where time allows, the drawn maps may be painted—so as *to show relief*, the individual child being left to use what colours he likes. This will give an opportunity for the teacher to do a similar map with colouring in the spectroscopic order, for the class to compare with their own colourings.

HIGHER WORK—
GENERAL CONSIDERATIONS

The first term's work in the third year should be entirely revision, partly to carry along with you the new boys. This revision will include (1) the fundamental features of the globe, and (2) the essential principles of the science so far as studied. In revising these, with special reference to your "Homeland", you should of course pay particular attention to the new boys; and these, like the old boys now, will be of an age at which the printed page seems to begin to carry conviction. Books and atlases, therefore, may become important; and, whatever your opinion about the book, there can scarcely be a question that this revision should be done closely with the map.

MAPS

For this purpose one wants good physical wall maps; and these should be without names, if for no other reason than that one wants to have the map in such a position that the part which is actually nearest to the boys on the surface of the Earth, may be also nearest to them in the classroom, *i.e.* the map may have to be upside down. Each boy should have also his own atlas, in which (as "places" are mentioned) he should underline the names, and a packet of loose maps, blank or otherwise.

All recent modern school atlases contain maps which would enable this revision to be very effective, *e.g.* maps bringing out the way in which the wind system of the world "swings" with the sun; and even the worst old "political" atlases used to show the two tropics, so that boys could keep in their minds the

idea, *e.g.*, of the North Tropic as the "Havana—Calcutta—Canton line." In examination they are suddenly asked a question about, *e.g.*, the tropical part of U.S.A. territory, or the temperate colonies of Australia; and, even if they have never thought about it before, they *know* instantly that neither an inch of U.S.A. proper nor an inch of N.S.W. is inside the tropics.

This revision done, how is one to go on? There are several alternatives, two at least supported by very eminent geographers. I do not think that there is much to choose between several of the methods in question. All have their good points, and a teacher should choose the one which is most congenial or suitable in the particular case; but, whatever course is adopted, neither the Home-land work nor the world knowledge must be sacrificed.

REGIONAL GEOGRAPHY

Again, everyone admits that the link between the two at this stage must be Regional Geography; but all of us do not mean the same thing by this. You can reach your "region" by analysing the globe into essential parts, and then studying the kindred parts together; or you can move synthetically outward from your chosen centre, filling in details as you go. The latter course, as the class has already implicitly grasped the whole globe, has the advantages of a concentric method; the former implies so much previous explicit knowledge that it is suitable only for advanced classes, and the elimination of non-essentials is—for boys of the age in question—more difficult than the choice of essentials.

Those who are specially interested in this point, will find in the *Geographical Journal* for March, 1905, a most sug-

gestive article by Dr. Herbertson on "The Major Natural Regions" of the World, with maps of the structural divisions, the temperature belts, the seasonal rainfall, the "common" essentials of which are combined in a map of the "Major Natural Regions". And it is obvious that the general principle involved in such[1] treatment is not only essentially sound and helpful, but also has been prepared for by the "topics" in the junior classes. Indeed, at one time I was much tempted to do all my school teaching on these lines, as a quotation from the preface of a little book which Mr. Blackie published for me in 1895 will show, if I may be excused for quoting it:

"It remained to choose a method. It seemed that constant use of an atlas, constant application of known conditions to new cases, constant verification of facts (from newspapers

[1]Anything which makes for "unity" of method or fact must be helpful, but there are things more valuable even than unity.

and elsewhere), constant argument by cause and effect, and constant appeals to observation, ought to develop a habit of thought invaluable for life generally and for a life of business in particular.

"Further, it seemed convenient to give up the stereotyped plan of dealing with the Earth piecemeal by continents and countries, and to adopt an arrangement by which certain phenomena of geographical science might be dealt with separately."

UNIT FOR TEACHING

The questions are: "What phenomena?" and "What does one mean by *separately*?" It is quite easy to divide the world roughly into regions having a certain unity of configuration and climate, and therefore of vegetation and human occupations; but it is exceedingly difficult to put definite boundaries to such regions. Even if you ignore all detail, and select only very marked phenomena, there is still, in 99 cases out of 100, the vague, indeterminate border-

land; and, though you may be able to give the boys a very clear and accurate mental picture of a *typical bit* of the area —forest, desert, grassland, &c., it lacks the definite appropriate frame. Further, there are areas which have, *e.g.*, "unity" of relief without "unity" of climate; and these become not only very difficult to teach, but also very liable to undermine the boys' convictions about the other areas.

There is a further difficulty, the secret of which is suggested in the old saying that "a man should know everything that can be known about something, and something about everything". That is to say, the boys should have a detailed knowledge about some small area or areas, and a broad knowledge of all the rest of the globe. Obviously the really valuable possession is a *finished picture* of the small area or areas; there is more interest in it—it gives

greater facilities for tracing out cause and effect—it is a constant standard of judgment.

If, at the same time, one is trying to make Geography a basal subject for all school work, or at all events the great correlator of all subjects suitable for school work, one realizes that the unit of one's teaching must be sought elsewhere. The deciding considerations in my own case would be these: (1) that they must get the picture by acquiring facts before you can train their minds by discussing the relations of the facts; (2) that you should therefore follow as far as possible the "natural associations of the class"; (3) that the method must be one applicable, with different degrees of detail, to every class, from the age of ten or eleven upwards.

POLITICAL UNIT

Eventually, therefore, the political unit seemed to be the right one. The mere name of the unit, *e.g.* Germany or Japan, had definite associations in the boys' minds; it called up such knowledge of the history, trade, literature, sports, &c., as the boys possessed. "Perthshire" meant the *Tay basin* and a great deal more; "Loch Fyne" made them understand a *fiord.*

Driven apparently to the political unit, one asked anxiously: "Can it be right to teach from this? And, if so, is it really the best thing to do?" And the answer was twofold. It is certainly *wrong*, if you are going to muddle up, even by "intelligent anticipation", purely geographical and purely political considerations; *e.g.* it seems to me absurd to treat "Bohemia" in any way in connection with "Germany". It is certainly

right if you have made some *previous* study — if only a superficial "globe" study — of the larger natural region, physical or climatic, within which your political unit falls, so that facts can be learnt as examples. And it is really best, as well as right, because your object is not only to study the relation of the area to the Earth, the part to the whole, but also the relation of the people to the place, the organic response to the inorganic control. The average boy is looking forward to a career in which, for all practical purposes, peoples are divided into political units; the classification of school methods as "descriptive", "causal", "regional", &c., is mere straw-splitting: one makes a *regional* synthesis of the political unit, *describing* the selected facts and *connecting* them by cause and effect.

ESSENTIALS

In proportion as your preliminary work has collected material and made the relation between the concrete reality and the conventional map familiar, so you are free now to use that material and apply that familiarity with the map; and, just as in the earlier selection of material the important thing is to know what to avoid, so with this later work, when you are increasing your detail, the important thing is to know what to emphasize.

Obviously, one wants to emphasize essentials; but one may be doubtful what exactly the word covers. Personally I never interpreted it as anything except "facts which one can account for, or connect with some result"; but, as one's time was limited, one had to make a selection even amongst "facts with reasons". From this point of

view, those facts were the most important which seemed to have the most obvious influence in differentiating the peoples and products of the world, *i.e.* the political units and their "natural monopolies".

COMPARISON

How was one to determine these differentiating influences? By comparison—leading to the elimination of non-essentials and the identification of kindred essentials. This comparison should be both physical and political; lands should be worked "in pairs", and the physical condition of each should be discovered by comparison of different maps. Thus, in Europe, one would work Italy, in the south, with Scandinavia, in the north—the Balkan peninsula, to the east, with the Iberian, to the west—France, spanning Europe from north to south in the west, with Russia, spanning it

from north to south in the east—the military power of Germany, based on the middle Rhine and expanding to the north-west, with the military power of Austria-Hungary, based on the middle Danube and expanding towards the south-east; and so on. In each case you can compare one kind of a map with another — *e.g.* geographical with geological, one of climate with one of vegetation, one on a large scale with one on a small scale—making allowance for the age and ability of the particular class. With junior classes I would never do more than compare relief maps with climatic maps, and climatic maps with maps of vegetation, making the class, *e.g.*, infer the influence of the relief on the climate from comparison of rainfall records on the windward and the leeward side of the chief precipitating medium.

TWO DETAILS OF METHOD

Our general object being to observe truly, to select appropriately, to picture distinctly—all matters of great importance in the careers to which the mass of the boys are looking forward—we may get help from certain details of method, of which I would like to refer to two.

The first is to present the material in a definite and absolutely uniform order—uniform, so that a boy does not waste time in wondering how to begin, how to tackle a new area or a new subject; and in order, in sequence, with logical continuity, because one of the gravest signs amongst our young business men nowadays is their love of "making a sprint" every now and then, and their aversion to continuous mental effort—partly due, no doubt, to the titbit and snippet character of the so-

called literature which they read as boys.

I think, for instance, that one should always do what the Board of Education Regulations for Secondary Schools (Form 561) suggest, and approach an area from outside, *i.e.* begin with its surroundings, its world site and its immediate environment. One might do much worse than begin the geography of Palestine by the simple statement that the oldest known road in the world led from the fords of Euphrates, past Damascus and Nazareth, over the plains of Esdraelon and Philistia, to the Isthmus of Suez and the Nile delta. In the same way, I think that we should always develop an area—but specially when teaching from the economic point of view — from the relation of its relief to its climate, selecting out of the resultant products, such as rivers and soils, plants and animals, only those which are

very useful or very typical, and absolutely ignoring unimportant and uncharacteristic details. In a word, we should teach boys to approach foreign areas in class as they will have to approach them in business—from the outside—and we should teach them to gauge relative value in the selection of essentials—also a useful accomplishment in a business life.

If I may take one illustration to show how useful comparisons make this selection of essentials more or less easy for boys, it will bring us to the second detail of method that I would like to mention. I take it from Holland—a land of low level, small area, and easy access to the sea, a temperate delta that happens to be also a Buffer State. It may therefore be usefully compared with Russia, a land also of low level, but of vast area and of bad access to the sea—with Belgium, also a Buffer

State, but of different physical character—with Egypt, also a delta, but with different climate. Five minutes spent in comparing these areas with Holland are sufficient to make a boy infer for himself that, in the case of Holland, out of all the essential conditions of site and size, climate and character, the most typical is its character as a delta, and then comes its position as a Buffer State. Similarly, in the case of Russia, he would infer that the typical things are its size and its uniformity of surface.

Now, unless I had abundance of time to spare, I would practically ignore all the other characteristics, and try to leave with the class just the conviction of these being essentials—in the case of Holland, (*a*) the delta, as a natural thoroughfare, as natural marshland, as an area where the presence of barge life is as natural as the absence of village life, —(*b*) and this because draining land well

enough to make it habitable is so expensive that you will drain the minimum and simply cover it with houses, running along the edge of a narrow, drained road, and replaced, when they stop, by lines of tall lanky trees, whose roots help to keep together the friable edges of the raised roadway.

So, in the case of Russia, I would try to leave the picture of (*a*) the vast plain, where man is overwhelmed by the tyranny of size, where he is isolated from his fellow man by the tyranny of terrific distances, where his initiative is crushed out by the tyranny of relentless monotony, where the absence of natural landmarks makes the church dome, gleaming above the mist-covered lowland, the only guide to the benighted wanderer,—and (*b*) as the result of all this, where that wanderer in turn so acquiesces in sacerdotal tyranny that he denies his children all animal food, even

milk and eggs, in the coldest parts of the year as soon as they overlap Advent and Lent, where the perishableness of his wooden house, by fire in the ice-bound winter or by the ordinary wear of fifty summers, saps any Historic Sense with which he might criticize tyranny, whether political or sacerdotal, physical or climatic.

But we want not only orderly thought, we want also exact thought; and, as our presentation should be uniform, and our development of areas logically continuous, so in other details we must work on strictly scientific lines—observe, *e.g.* on physical maps—compare and contrast, *e.g.* by superposing of maps—collect and classify, *e.g.* details from a textbook—verify and infer, *e.g.* from trade returns, this being the only occasion when statistics are needed or justified, and of course even then only for reference for the moment.

EXAMINATIONS AHEAD!

But, while one is not neglecting the ideal, one has to keep an eye—perhaps even an unrighteous one—on immediate demands and circumstances, amongst which the most pressing is the probability of an approaching examination. And here again we have a case in which there is a good deal of pious twaddle written and spoken.

Before the "shades of the prison-house" have closed round the growing boy, he is a wonderful creature, with powers of adaptation and assimilation which laugh at the Netherwards paving operations of theorists who never saw a classroom. A good teacher can teach a junior class any mortal thing—Gladstone's old Home Rule Bill, submarine deposits, the futilities of the big loaf and the little loaf protagonists, are all

equally serviceable, if there is any obvious reason for teaching them.

Now, if there is an examination for which parents, governors, or local authorities wish the boys to be entered, any conceivable syllabus—even that of the "Oxford Locals" at its worst, or the worst it has reached hitherto—can be taught educationally; but you may have to make an entirely new arrangement of its details and pay absolutely no attention to some of its specific demands till within six weeks of examination.

TYPICAL PAPERS

Whatever the examination happens to be, therefore, it demands some attention. And the wise teacher gets as many recent papers as possible, and compares them carefully, so as to eliminate the incidental and accidental, and find out the essential lines of thought

and the essential minimum of knowledge. This comparison will probably lead to questions being classified as (*a*) mechanical and (*b*) educational.

The former are concerned with maps and definitions; they are the easiest for dull boys, and the map is often compulsory. Here at once is a hint as to homework, including (*a*) the mapping of *typical forms* from "set" areas, *i.e.* (as I have already suggested) the learning of definitions by the mapping of the common forms of land and water; and (*b*) the superimposing of a map of one area on the map of another area that is approximately the same size and somewhat the same shape, *e.g.* maps of a "pair" of lands.[1]

The educational questions may be physical, political, or economic. The

[1] The word "set", of course, refers in the first instance to a definitely prescribed area; but, if no area is prescribed, it must be taken to mean a specially important, *i.e.* a "likely", area.

physical ones deal with "phenomena"; and, if they are fair questions to set at all, they must either refer to quite general phenomena of "world" importance, *e.g.* great climatic processes, or be taken from a limited prescribed area. Both needs can be met by revising every year — every term, if many new boys enter at bye-terms—the fundamental "world" phenomena, and comparing or contrasting them with phenomena from the prescribed area, if there is one. You may take two-fifths of your whole time throughout the year for these world phenomena and their parallels, because the greater the "world" knowledge, *i.e.* the greater the knowledge of what is *typical* of large natural regions, the easier is the focusing of that previous general knowledge on the prescribed area. Practically all the facts of the latter are already known; and the few that are not known, are

easily pigeon-holed as examples of laws already familiar.

PEOPLE + PLACE

The political and economic questions are practically identical—the relation of the people to the place implies the product, as that of the product to the place implies the people, or that of the product to the people implies the place. All these elements are represented, *e.g.*, in the town unit; and, again, if questions are fair, they must refer either to towns of "world" importance —which nowadays are always politico-economic centres—or to the towns of a small prescribed area, in which there cannot be more than about a score of towns worth remembering. This is, of course, the reason why I have already implied that I think our subject-matter should be essentially concerned with people, not products. Distinct mental

pictures of the geographic control of human phenomena will include all essential products—in the widest sense of the word—food and clothes, houses and means of transport, customs and games, what the people need and what they have to spare; and these things will be included, not as lonely details depending on an already overtaxed memory, but as essential parts of a picture which must rise to the mind's eye whenever the picture rises.

If you consider the economic future of this country, you can scarcely doubt that this is the right subject-matter of School Geography, for that future depends partly on the development of new lands, but still more on the finding of new markets. And you cannot find, or seize, such new markets unless you understand in each case how the land has moulded the lives of the people, what they have learnt to need

or to do without, what is their standard of comfort, of beauty, of value.

For instance, if you are trading with Holland, you don't want to confuse the islanders, the "Free Frisians", the heroes of a hundred historic fights *on* the sea, with the grim Hollanders, the men of the dyked lands, the heroes of an unending historic fight *with* the sea. The difference is essential—in their wants, their idea of bargain, their method of payment, &c.; and it is essentially a matter of geographic environment.

It is precisely such phenomena that should form the subject-matter of School Geography, because it then becomes a course of scientific education; and the imparting of useful knowledge ceases to be an end in itself, and becomes a means to a much greater thing—the development of mental power and the making of men.

HIGHER WORK—
PARTICULAR CONSIDERATIONS

As soon as one begins to tackle details, there are two pressing questions that have to be answered: "Am I going to use a textbook?" is one, and the other is: "Am I going to use a lantern?"

As to the textbook first. I have known equally good work done with a book and without one, and originally I did not use one; but eventually I came to believe that there was much more to say for the book than against it. My difficulties were twofold: (*a*), I had really very little time—only forty-five minutes a week with each class; (*b*), I wanted materials for exercises.

The "time" question was the more pressing; and obviously I was going to

save time in school if my boys needed to take only a minimum of notes, and if they could revise out of school. On the other hand, I did not want anything to come between the boys and myself; and, though for several years I used Mr. Chisholm's *School Geography*, and think that it is still one of the very best schoolbooks on the market, it gave *more* than I wanted. What I really wanted was a book of "paragraphed notes", which would save one's time in class by obviating all need for tabulating skeleton materials, and which would minimize the boys' time and trouble in revising out of school. Such a textbook is also a real check on the bad spelling (of geographical terms and names) on which the modern notebook fad puts a premium (except at the cost of a frightful waste of time and labour on the part of the teacher), and is the only reasonable method of "making up"

back work by absentees—whether real invalids or atavistic malingerers.

The "material" question, though important, was less pressing. Of course in those days there was no Simmons and Richardson's *Introduction to Practical Geography* or Unstead's *Practical Geography*. I should not have used more than about one-fifth of the exercises in the former, if it had existed in my school-teaching days; but it was the pioneer book on the subject, and is full of sound and suggestive knowledge suitable for school purposes — though not always geographical knowledge, or knowledge that should be used in the Geography class. Mr. Unstead's book is essentially geographical, and only needs to be used with due regard to the warning raised by Mr. Wethy—who is unquestionably the best school teacher of Geography in this country—that the doing of lists of questions may

be made as soul-destroying as the learning of lists of capes and bays was in the old degenerate days. This danger at all events does not accompany the use of a textbook as a source of materials for exercises. The number of exercises which you can set on the collecting or classifying of details from the continuous view of the whole book, is quite limited, even if your class makes a complete subject index.

If these pages meet the eyes of any of those unknown correspondents who have criticized my own little series of School Geographies, they will see why I deliberately chose the plan which they dislike—of "paragraphed notes", and why I still recommend the use of a textbook. The only qualification I would make is: *Don't* choose one because of the number of diagrams that it contains! And this for several reasons. Even if you do not agree with me in

thinking that the appeal to the eye is much overdone nowadays, you will probably agree that one of the most useful bits of homework is to convert a page — or paragraph — of the text-book into a diagram, so that the boy does his own interpretation; and there are the minor considerations that (1) we want to save him from poring over tiny "black and white" contours, &c., in the gloom or fog which is characteristic of so many of our towns in the winter half-year, and that (2) many of the typical diagrams are devoted to the peculiarly futile task of trying to represent geological deposits over continental areas.

The one intolerable thing in a text-book intended for school use is any "Advice to Teachers"—an impertinence from which some recent books have not been free. By a little more knowledge and a little less vanity both the

authors of such books and local officials who have prescribed them for use in schools, would have been saved from the assumption that elementary knowledge is a qualification for Elementary teaching and that "Secondary" is synonymous with "second-rate".

The question of the lantern is not so easily settled. The cost and relative badness of the apparatus twenty years ago, combined with the fact that my boys seemed to think the "show" more or less "piffle", prevented me from ever using it in school; and, though I have used it in recent years for some purposes, I thoroughly dislike it. Nor can I agree with Mr. B. B. Dickinson that "the lantern slide is the only possible way of connecting nature with its representation on a map where field work cannot be carried out", except in the most minutely literal meaning of the words. No doubt the nature of the land ten miles

north of the Verkhoyansk "Pole of Cold" can only be connected with its representation on a map by means of photograph or picture (whether put through the lantern or not); but the scenery is absolutely of no importance there, and your picture cannot show the one essential—the *absence of wind* all through the long winter.

Personally, I much prefer the constant presence of pictures hanging round the classroom, just above the level of the boys' heads as they sit at their desks. Even in olden days much could be done in this way; for instance, the generosity of Mr. W. H. Lever, M.P., enabled me to hang some fifty such landscapes (Hollyer and other "reproductions") in this way, to meet the eye even of the idler day after day. And now, with the large wall pictures by Mr. L'Estrange, published by Philip & Son, and the small desk pictures by Miss

Walter, published by A. & C. Black, teachers can place permanently before their classes the essential forms of land and water, and the action of many climatic forces. On the other hand, there is no doubt that some excellent work is being done in many schools with the lantern; and it is certainly much the cheapest way of putting a *large* map before the class. The greatest benefit is derived from the full treatment, in a series of slides, of a single physical phenomenon; the greatest mistake is to make a lecture instead of questioning the class minutely so as to enable them to discover for themselves the essential meaning of what they see. Of course, complete darkness is no longer necessary for the effective showing of slides; so that there need be no hesitation about using them on the score of "defective discipline" or "inability to take notes".

But, whatever one's decision on the matter of books and lantern, the general treatment of the chosen area with these higher classes is facilitated by using a method which is applicable, with different degrees of detail, to every class; and gradually I came to lay down for myself three rules, with liberty to change nothing except the *order* of their importance—psychological order being important for the younger, and logical order for the older boys.

I. The first rule, of course, was to do all work with the physical map—on which the colouring was as bright and "crude" as possible, so that the appeal to the eye might be immediate even on a dull, foggy day when one had to use artificial light; and the only political maps we used were those in the boys' own atlases, appeal for "up-to-dateness" being made to the atlases of new boys. Even in the old days we had, in Meikle-

john's *Comparative Atlas*—which cost only 2*s.* 6*d.*—a perfectly satisfactory atlas for such purposes; and nowadays, when an atlas of the excellence, *e.g.*, of Philips's *London School Board Atlas*, can be bought for a shilling, there is no possible excuse for every boy in the class not having a thoroughly educational atlas.

The only proper use of the political maps, I submit, is for comparison with the physical maps, so that the boys may discover for themselves the "meaning" of historic events or strategic problems —the latter an unfailing source of interest to most boys in senior classes.

In view of recent events, for instance, one might easily be discussing with a higher class compulsory military service; and, in connection with that, one might point out that the "Swiss" were the first people in Europe to introduce universal liability of adult males to

serve. The position of fortified centres, such as Martigny and Andermatt, or of military schools, as at Basle and Thun, is only fully appreciated by comparison of the physical map with the political map; and, when one wants to account for the "Swiss" being the *first* people to bring in this custom, one wants again to compare a political map of the Cantons with a physical map of the whole Alpine area.

At once it becomes obvious that the four large cantons of Valais, Grisons, Bern, and Ticino correspond more or less with the upper valleys of the four great rivers which radiate from the St. Gothard district—Rhone, Rhine, Aar, and Ticino. We see, too, that the Reuss takes a middle course between the eastern and the western cantons on its way from the common source of the four great rivers, near the great fortress of Andermatt, to what is practi-

cally the confluence of the Rhine and the Aar at the historic site of Hapsburg. The local names, such as Zürich and Solothurn, containing the root *dwr*, suggest the historic importance of the rivers, as that of the Swabian heights to the north suggests the boundary of the old Suevi. Add to this two further considerations—(*a*) that the upper[1] Reuss valley is the precise area in which the Föhn wind is most favourable to the northern slope of the Alps, and (*b*) that the lower Reuss valley was originally part of the old Duchy of Swabia—and we at once throw light on (*a*) the early importance of the Uri canton and its neighbours, Schwyz and Unterwalden; (*b*) their success in pushing the native Hapsburgs north into the Danube valley and the Savoy intruders south

[1] This includes the Emmen basin, *i.e.* the mountainous part, of the Lucerne canton, which, of course, formed one of the four "*Forest* Cantons"; cf. the name *Vierwaldstättersee* for the Lake of Lucerne.

on to the Italian plain; (*c*) their connection with the "Swabian" part of the Danube basin and so with Austria; (*d*) the appropriate sites of the three great "battles of deliverance" fought round the most northerly of the three cantons—Morgarten, just on the northern frontier of Schwyz,—Sempach, in advance of the western frontier,—and Näfels, in advance of the eastern frontier.

I think that little studies such as the above are very useful every now and then, but for the mass of the work only physical maps are needed. The wall map should be of a larger area than the one actually being studied; that is to say, a map of the world if one is working on a continent, a map of the continent if one is working at a political unit. The atlas map of the particular area should be interpreted, in the first instance, by the chief generalizations of

the larger area; and this should be done in a uniform order — the more "general" considerations being taken before the more "particular". The precise order of the "general" considerations should be, I think — (*a*) site and surroundings, and then (*b*) size and surface, dealt with in direct relation to the globe; and from these the boys should deduce the general climate. Treatment of the "particular" consideration should begin with a summary of the climate by the teacher, re-presenting the statements of the class and calling attention to any omitted points, *e.g.* the effect of local relief; and this should lead to the vegetation and minerals, dealt with in direct relation to man. From this the boys can easily map the distribution of population.

II. The second rule was to treat kindred phenomena closely together, ignoring those for which "reasons" were

either not apparent or too difficult for the boys to understand, and preparing for special features by special selection of the necessary material in connection with the previous world study. For instance, in the treatment of Italy, one wants, *e.g.*, (1) to compare the Alps with the Apennines, the obvious link between them being the Po, and (2) to call attention to the number of universities in the country. The ocular proof of the superiority of the Alpine over the Apennine watershed is in the way in which the main line of the great river is shoved southwards until its southern bank comes right up against a spur of the Apennines —which accounts, for instance, for the importance of Piacenza as a "bridge town"; and one can prepare for this when taking a general view of the world watersheds and river systems, by noting, *e.g.*, how the Ganges is shoved south against the Dekkan plateau, or how

the Danube is shoved south against the Bulgarian plateau.

Similarly, in connection with the mapping of "definitions", when discussing an "isthmus", one can extend the general idea so as to cover, from the economic point of view, any long narrow area, *e.g.* Great Britain, Crete, Egypt, &c., showing how difficult such areas have been to govern from a single "centre", especially in times when transport was bad, and in places where the climate varies greatly. The difficult traffic and the varying climate, with its corresponding variety of products, and therefore of human occupations and interests, mean often great subdivision of the area into small political units, each bound to have its own political and educational centres; and, with a higher class, this might lead to a useful discussion of the historical Geography of the European peninsulas, with a view

to determine whether such forms, in spite of their apparent unity and compactness, do not tend rather to decentralization than the contrary—a tendency which drove a people who could, and did, "think imperially", to develop that magnificent engine of government, the Roman road. One need not elaborate the point. If one is properly ahead of one's actual teaching, with a properly thought-out syllabus, one can "anticipate" special features and topics of this kind; and then, when the actual phenomena come up in class, the boys "remember", "identify", "interpret", them for themselves instead of your having to help them.

III. The third rule psychologically becomes the first logically—to maintain a definite and absolutely uniform order. It not only saves one's time and effort, but also encourages boys to tackle difficulties as they arise. I have known

intimately almost a score of boys who afterwards became "Internationals" in Rugby Football; and I believe that, with perhaps one exception, they all owed their "caps" in the first instance to the fact that their boyhood's training had taught them to tackle difficulties as they came, and not try to shirk or circumvent them.

What the precise order should be is possibly open to discussion; but, as I have already said, I believe that the boys should approach the area in class as they will have to approach it as men in business—from the outside. Great emphasis is laid, by some writers, and quite correctly, on the importance of coastal features being intimately connected with the relief of the land behind them; but it is not appreciably more difficult to connect the coast with the hinterland than to connect the hinterland with the coast, and the latter is just as educational as the former

I should begin, then, with the world-site of the area and go on to its local environment; and then, in the development of the area, the important thing will be to end each "section" with what leads naturally to the next. For instance, position and relief will lead to climate; relief and climate will lead to vegetation; vegetation and such mineral deposits as are specially related to the climate (*e.g.* by denudation), will lead to the character and distribution of the population.

With regard to the "approach" the actual procedure should be, first, to determine the world position—by means of the globe and a large-*area* wall map; this will give the class a comprehensive general view, from which, with a "new" area, they can infer the *probable* climatic, economic, strategic advantages and disadvantages of the area. If they have really good "standards of judgment",

chosen by themselves, this is very soon done; and I found that, when left to choose for themselves, boys almost invariably choose, *e.g.*, "Havana, Calcutta, Canton" as the "tip" for the North Tropic, "Rio, Walfish Bay (Rockhampton)"[1] for the South Tropic, "New Orleans" as 90° W. and "Calcutta" for 90° E.

This world-position is then examined in relation to the immediate surroundings—by means of a large-*scale* map, which gives local details more fully, *e.g.* depth of water, height of coast land, &c.; and this enables us to verify and justify our general ideas, and to see how far the "probable" tendencies are actually realized. This requires a good deal more time than the previous work of determining the world-position, and one has to be care-

[1] Very few chose any *third* town at all for the South Tropic.

ful in limiting the meaning of "local" and the amount of detail. In this, as in everything else, the great stand-by is comparison, which soon eliminates non-essentials.

Such comparison should be both external and internal. For instance, the north coast of France should be compared with the south coast of England, as the west coast of France should be compared with the west coast of the Iberian peninsula; and the divisions of the north coast should be compared with one another, *e.g.* the 'broad-sea' coast west of the Cotentin peninsula with the 'narrow-channel' coast east of it,—the sand-dune coast to the east of Calais with the chalk coast to the west of it. In the latter case, for instance, boys jump at once to the understanding of how, in days of small ships, the river-worn cracks in the chalk made quite good harbours for the English

invaders, while the marsh round the church among the dunes preserved 'Dunkirk' to the French.

In the development of the surface the same procedure is adopted. Two "large-*area*" maps (physical and political) of the particular unit give a correct general idea of—how big it is, whether it is generally high and hilly or low and level, &c.; and from this, again, the boys easily infer the probable climatic, economic, and political advantages and disadvantages. A large-*scale* map (physical) then "verifies" tendencies, and individualizes details—the essential tendencies of a plain being to tillage, transport, political expansion, &c., while those of high land are to pasture, "power", minerals, &c. Here, too, the comparison should be both external and internal; for instance, Germany should be compared with other countries which are low and level in their higher lati-

tudes, and comparatively high in their lower latitudes, *e.g.* Italy and India; and "low" Germany should be compared with "high" Germany, with special attention to the Rhine valley which links the two.

The class is now ready for the formal treatment of the climate, which is implicitly known. The site and surroundings, the size and the surface features, have given us the relation of the particular latitudes to altitude and the ocean, so that we know already approximately how far the plain or highland tendencies can be realized; and we only need to formulate our implicit knowledge, and to add any necessary particulars about the modification of the regional phenomena by local reliefs and exposure, &c. The essential results may be grouped in river basins—by preference, *not* the large basins, but basins having a comprehensible unity of products, especially

those dependent directly on the climate. When the whole area is characterized by a profound uniformity of climate, as in Russia, the most essential "result" may be a climatic phenomenon, *e.g.* snow. It is quite impossible to understand the history of Russia, especially the "miraculous" speed of her expansion eastward, without due appreciation of the relation of snow to sledge traffic.

From climate we pass to essential products. And, as already implied, we interpret "essential" as either very useful or very typical. The very useful products will be probably those supporting the life of the people on the spot, and those which, by supplying a surplus for export, bring the producers into touch with foreign consumers. The very typical products are peculiarly valuable because of the help which they give towards making the mental

picture of the area precise, and giving it a marked "personality".

The most useful work here is probably introduced by a previous world-study, *e.g.* a comparison of Europe, the one really temperate continent, with Australia, the most intemperate continent—the one with practically unfailing supplies of rain, the other a scene of almost universal adaptation to drought. One can work from the really temperate areas of Europe, down the natural trade routes of the Rhine-Rhone valley, to the "summer-drought" products of the Mediterranean, showing, *e.g.*, how the variety of products in the summer-rain and summer-drought areas leads to natural exchange of products north and south *via* these natural trade routes; and then one can go from the "summer-drought" products of the Mediterranean region to the "eternal-drought" products of Australia.

This may lead to some discussion of the great difficulty of getting enough food to support human life, and—according to the age, ability, and sex of the class—numerous little problems offer themselves; but one would follow generally some line that would bring one back to the comparative ease with which European units can provide themselves with the minimum essentials of life, *i.e.* the "very useful products" referred to above.

My favourite "route" traversed—(1) the difficulty of getting any food except by arduous and constant hunting, and the consequent need for the hunter to be ready at any moment to rush off after a possible quarry; (2) the necessity for his being, therefore, not burdened with "domestic" utensils, and the consequent obligation on the woman; (3) the impossibility of her carrying more than one baby in addition to all the house-

hold goods involving constant infanticides; (4) the practical impossibility of the man sharing the "domestic" burdens making it inadvisable that any "domestic" responsibility should rest on him, so that, *e.g.*, descent is traced through the mother; (5) contrast presented by the typical fishing races, *e.g.* the coastal peoples of North-West Europe, amongst whom the standard of civilization has always been measured by the position of woman; (6) the contrast presented by the typical farming races, *e.g.* the Continental peoples of Central Europe, amongst whom life depends on grasses, from which bread can be made, and animals, from which milk can be obtained—both absent from the native products of Australia; and lastly (7) the comparison, inside the particular part of Europe that we were studying, of relative areas of lowland and highland, of relative importance of

plant products and mineral products, &c.

Essential products involve places, of origin or of transit, and it may be useful to classify these as ancient or modern. The reasons for the use of modern centres are almost always economic; those for the use of old centres were often political and strategic, and the latter are often suggested by the etymology of the place-name. A full analysis of the place should, however, include all the elements of "geographic control"—position, relief, climate, natural wealth, &c.; and, as in each area a *typical* site comes into the lesson, it should be very fully studied, so as to leave a clear mental picture to which all subsequent members of the type may be referred—*e.g.* the old capital of a shire, on a castle-crowned, river-girt rock, or a new mineral "mushroom", on an accessible point of a line of great terrestial disturbance.

SOME FINAL CONSIDERATIONS

The method which I have sketched above, I believe to be suitable for, and I did actually use with, all classes except the very youngest; but I had two incidental difficulties.

FINISHING TOUCHES

The minor one was to know exactly what was the best thing to do with senior boys during their last year at school. As a subject teacher, teaching a compulsory subject, one came in touch with every boy in the school; and one soon began to have a suspicion, which two or three years' experience converted into a conviction, that the typical boy of one department differed

materially from the typical boy of any other department. Presently the question arose—should one teach in this "leaving" year for knowledge or for discipline?

Eventually I inclined to the latter, though it meant splitting up what would have made a nice little class, into two or three Lilliputian fragments. But it was practically certain that the average "Classical" boy was deficient in observation, that the average "Modern-side" boy was deficient in reflection, that the average "Mathematical" boy was profoundly impractical and unadaptable. One wanted, therefore, to give the "Classical" boy practice in *observing* physical phenomena, with special reference to actual field work on the Homeland—to give the "Modern-side" boy a course of historical Geography with special reference to Egypt and Mesopotamia, Greece and Rome, China and Mexico, &c.—and to

give the "Mathematical" boy a course of economic Geography, with special reference to the future development of areas at present more or less undeveloped.

PERSONAL PREPARATION

The major difficulty was one's own ignorance. As I have said, the only decent textbook in my early days of teaching was Mr. Chisholm's *School Geography*; and, therefore, my whole attitude to the subject was based on his book—a piece of good luck which no one would ever have to regret. But I wasted a great deal of valuable time in trying to work things out for myself.

The modern danger is rather the other way. No doubt "reading maketh a full man"; but repletion, without digestion or assimilation, is an unhealthy —not to add a painful—condition. And the essence of the subject well known

is much more useful than a whole kosmos of incidental matter.

If I were starting again with the present wide choice of books and methods, I should certainly begin by spending five pounds on about twice as many books; and I should work at them until I had made their contents a personal possession for all time. They would include:

1. Chamberlain & Salisbury's *Geology*, mainly of course because of its intrinsic merits, but partly because it is such an admirable example of "American" methods that one need not trouble about any of the smaller American books, which rather irritate one by their choice of materials, their curious phraseology, and their pedantic nomenclature; and I would supplement this book with Marr's *Scientific Study of Scenery*, or Avebury's *Scenery of England*, or Geikie's *Earth Sculpture*.

2. The most useful book treating the definitely geological with the definitely geographical — Gregory's *Geography, Structural and Physical.*

3. Chisholm's *Handbook of Commercial Geography*, a secondhand copy of Schimper's *Plant Geography* and Mackinder's *Britain and the British Seas.*

Besides these, I would use two or three good modern textbooks in preparing my lessons, as a guide to choice of materials, relative importance of selected topics, and variety of presentation. One's greatest want is of some real help towards the ideal of correlating the methods and materials of Geography with the mental stages and personal interests of the various classes.

If I may venture, in conclusion, to give a word of direct advice, I would say:

a. To the too-numerous over-con-

scientious women: "Don't try to teach too much!"

b. To the too-few young men who are enthusiastic: "Don't think that you can reach your goal without much toil and perseverance!"

c. And to anyone who is tempted to deduce principles from an insufficient basis of collected facts: "That is precisely the vice of the scandalmonger".

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